

Recent Advances in Numerical Modeling and Simulation					
Module-No./Abbreviation	Credits	Workload	Term	Frequency	Duration
CE-W04/RANMS	2 CP	60 h	2 nd Sem.	Summer term	1 Semester
Courses Recent Advances in Numerical Modeling and Simulation			Contact hours 2 SWS (30 h)	Self-Study 30 h	Group Size: No Restrictions
Prerequisites Finite Element Methods in Linear Structural Mechanics (CE-P05)					
Learning goals / Competences After successfully completing the module, the students <ul style="list-style-type: none"> • gain insight into the current research in the field of numerical methods in structural mechanics based on selected research topics, • have skills on selected numerical simulation approaches and its application in engineering, • have tested research-oriented working. 					
Content During the course, selected topics in the field of numerical modeling and simulation in structural mechanics will be presented. The range of topics will be continuously updated to fit with the relevance of current research topics, e.g.: <ul style="list-style-type: none"> • the Extended Finite Element Method • Finite Cell methods • Isogeometric Analysis • Peridynamics For each topic, the theory will be offered in the compact form with emphasis on the algorithms and specific numerical methods. Selected application examples will be demonstrated.					
Teaching methods / Language Seminar (2h / week), / English					
Mode of assessment Seminar presentation 'Recent Advances in Numerical Modelling and Simulation' (30 h, 100 %)					
Requirement for the award of credit points Passed seminar presentation					
Module applicability MSc. Computational Engineering, MSc. Bauingenieurwesen					
Weight of the mark for the final score -					
Module coordinator and lecturer(s) Prof. Dr. Roger A. Sauer, Assistants					
Further information					